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Please find below and/or attached an Office communication concerning this application or proceeding.

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/668,472
Filing Date: September 22, 2003
Appellant(s): BECK ET AL.

Gerard Messina
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed May 5, 2008 appealing from the Office action mailed February 2, 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

2003/0080392	Zuniga-Ortiz et al.	05-2003
6,406,939	Lin	06-2002
6,372,539	Bayan et al.	04-2002

(9) Grounds of Rejection

Claim Rejections - 35 USC § 112

With respect to claim 14, the claim is a duplicate of claim 1. The only difference noted is the term "highly conductive" first metal; however, both first metals are recited as being silver in both claims. Hence, the claim should be canceled to avoid duplicate claims.

Claim Rejections - 35 USC § 103

Claims 1,4-8 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (U.S. Patent 6,406,939, hereafter '939) in view of Zuniga-Ortiz et al. (U.S. Patent Application Publication 2003/0080392, hereafter '392) and Bayan et al. (U.S. Patent 6,372,539, hereafter '539).

Claims 1 and 6: '939 teaches an example which teaches

a method for producing a conductive coating on a dielectric (i.e. insulating) substrate (col. 3, lines 43-53), comprising:

equipping, in selected regions, at least one surface of an electrically insulating substrate (401) with a coating of an electrically highly conductive first metal (402), the coating being structured as a printed circuit board;

cleaning the at least one coated surface (col. 6, lines 42-46);

seeding the coating with seeds of a second metal (Ni) and then depositing a layer including an alloy (Ni-P) of the second metal onto the coating seeded with the seeds of the second metal via electroless plating (col. 6, lines 50-55).

Claim 3: The electrolessly plated metal may include palladium alloys (col. 4, lines 6-11).

'939 does not explicitly teach that this substrate is subjected to firing. However, the examiner takes Official Notice that it is well known in the art of printed circuit components to fire components to bond them to one another after formation of the components. See, e.g., '939 col. 8, lines 34-40.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have bonded the product of Example 2 to another substrate via a firing process because it is well known in the art to use such processes in order to join printed circuit components together.

'939 is discussed above. It teaches that the substrate may be a ceramic (col. 4, line 63-col. 5, line 2), but does not teach that the first metal includes silver.

However, silver is a well known material for terminal bonding pads. See, e.g., '392, claim 23. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a terminal pad including silver as the particular terminal pad of '939 with a reasonable expectation of success because '392 teaches that silver is a suitable material for terminal pads. The selection of something based on its known suitability for its intended use has been held to support a *prima facie* case of obviousness. *Sinclair & Carroll Co. v. Interchemical Corp.,* 325 U.S. 327, 65 USPQ 297 (1945).

'939 teaches that the product may be subjected to connection technologies such as wire bonding, but '939 and '392 do not explicitly teach contacting a gold bonding wire to the first metal.

However, '539 teaches that gold wires may be used as connection technologies for circuit components, and that gold forms a sufficient bond with silver (col. 4, lines 38-50). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a gold bonding wire as the particular connection technology of '939 for attaching at least one chip because '939 teaches that wire bonding is a conventional connection technology and because '539 teaches that gold wires in particular are suitable for successful bonding to silver.

Claims 4-5 and 7-8: Regarding the composition of the alloy, it has been held that "differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical." (MPEP 2144.05.II.A.)

(10) Response to Argument

Appellant argued that claim 14 is not a duplicate of claim 1.

The Examiner disagrees. As noted in the rejection above, the only difference in scope of claim 1 and claim 14 is the recitation of "electrically highly conductive metal" vs. metal. As noted above the metal are recite as both being silver, and therefore, the claims are a duplicate thereof. Furthermore, it is noted in the Appeal Brief that the claims also differ in "seeding the coating" or "seeded the coated surface with seeds". This is identical as well and the examiner

sees no difference in the claimed language. The Appeal Brief states that claim 1 recites: the coating" whereas claim 11 recites "the at least one coated surface". The Examiner sees no difference between the recitation in light of claim 1 also reciting "at least one coated surface" in the cleaning step. Both claims, therefore, recite "at least one coated surface" even though the antecedent basis of the phrase "at least one coated surface" was not recited in claim 1 does not render the claim patentably different. In conclusion, the rejection is maintained.

Appellant argued that the prior art fails to teach a LTCC (low temperature fired ceramic) as the substrate.

The Examiner agrees in part. While the Examiner acknowledges the fact that the prior art fails to specifically teach a LTCC, the prior art does teach a ceramic substrate, and it is the Examiner's position that this would be inclusive of LTCC.

Appellant argued that the prior art teaches heating to melt the solder during wire bonding and the claims now recite firing below the melting temperature of the metals.

The Examiner agrees in part. While the Examiner acknowledges the fact that the reference teaches heating the solder to bond the wire, it is the Examiner's position that this is commonplace in the art. There is no teaching or suggestion to melt the equivalent metals recited in the Abstract for bonding purposes. Furthermore, Zuniga-Ortiz et al. (U.S. Patent Application Publication 2003/0080392) teach forming metallurgical bonds without heating (abstract). Zuniga-Ortiz et al. (U.S. Patent Application Publication 2003/0080392) go on to teach a variety

of method utilized to form the bonding without melting which include direct welding the cleaned surface with pressure and elevated temperatures. This would meet the limitation of "firing" as claimed since the firing is defined as occurring without melting and this is bonding step is performed with melting ([0061]-[0063] and claim 16).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Brian K Talbot/

Brian K Talbot

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